



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2012-0806; Directorate Identifier 2012-NM-022-AD; Amendment 39-17243; AD 2012-22-07]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes. This AD was prompted by reports of an in-service incident where the propeller de-icing system became unavailable due to burnt/chafed wires within the alternating current contactor box (ACCB). This AD requires inspection for chafing, damage, and loose wiring within an ACCB and repair if necessary; and requires rework and re-identification of the wiring installation within each ACCB. We are issuing this AD to detect and correct damaged, chafed, or loose wiring within an ACCB, which could affect the operation of the windshield heater, ice detector, angle of attack (AOA) vane heater, pilot probe heater, engine intake heater, or propeller de-icing system, and subsequently adversely affect the airplane's flight characteristics in icing conditions.

**DATES:** This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF

PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may examine the AD docket on the Internet at

<http://www.regulations.gov> or in person at the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Assata Dessaline, Aerospace Engineer, Avionics and Flight Test Branch, ANE-172, FAA, New York Aircraft Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7301; fax (516) 794-5531.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on August 16, 2012 (77 FR 49394). That NPRM proposed to correct an unsafe condition for the specified products. The Mandatory Continuing Airworthiness Information (MCAI) states:

There has been one (1) reported in-service incident where the propeller de-icing system became unavailable due to burnt/chafed wires within the Alternating Current Contactor Box (ACCB). There has also been a number of additional minor events of wires found chafed within ACCBs.

An investigation revealed that inadequate clearance between the wires and metallic structure within the ACCB could cause chafed wires.

Damaged, chafed or loose wiring within an ACCB could affect the operation of the windshield heater, ice detector, angle of attack (AOA) vane heater, pitot probe heater, engine intake heater or propeller de-icing system. Loss of one of these systems could adversely affect the aeroplane's flight characteristics in icing conditions.

This [Transport Canada Civil Aviation (TCCA)] Airworthiness Directive (AD) mandates the [visual] inspection [for damaged, chafed, and loose wiring within an ACCB and replace if necessary] and rectification [rework] of the wiring installation within each ACCB.

You may obtain further information by examining the MCAI in the AD docket.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (77 FR 49394, August 16, 2012) or on the determination of the cost to the public.

### **Conclusion**

We reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed – except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (77 FR 49394, August 16, 2012) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (77 FR 49394, August 16, 2012).

## **Costs of Compliance**

We estimate that this AD will affect 83 products of U.S. registry. We also estimate that it will take about 7 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$49,385, or \$595 per product.

In addition, we estimate that any necessary follow-on actions would take about 2 work-hours and require parts costing \$0, for a cost of \$170 per product. We have no way of determining the number of products that may need these actions.

## **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

## **Regulatory Findings**

We determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the NPRM (77 FR 49394, August 16, 2012), the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new AD:

**2012-22-07 Bombardier, Inc.:** Amendment 39-17243. Docket No. FAA-2012-0806; Directorate Identifier 2012-NM-022-AD.

#### **(a) Effective Date**

This airworthiness directive (AD) becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes, certificated in any category, serial numbers 4001 and subsequent.

#### **(d) Subject**

Air Transport Association (ATA) of America Code 24: Electrical Power.

**(e) Reason**

This AD was prompted by reports of an in-service incident where the propeller de-icing system became unavailable due to burnt/chafed wires within the alternating current contactor box (ACCB) due to inadequate clearance. We are issuing this AD to detect and correct damaged, chafed, or loose wiring within an ACCB, which could affect the operation of the windshield heater, ice detector, angle of attack (AOA) vane heater, pilot probe heater, engine intake heater, or propeller de-icing system, and subsequently adversely affect the airplane's flight characteristics in icing conditions.

**(f) Compliance**

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

**(g) Inspection**

For airplanes having serial numbers 4001 through 4354 inclusive, and 4356 through 4366 inclusive: Within 6,000 flight hours or 36 months after the effective date of this AD, whichever occurs first: Do a general visual inspection for chafing, damage, and insulation damage, and rework the wiring within the ACCB, in accordance with the Accomplishment Instructions of the applicable Bombardier service bulletin specified in paragraphs (g)(1) through (g)(4) of this AD. If any chafing, damage, or insulation damage is found, before further flight, replace the damaged wiring, in accordance with the Accomplishment Instructions of the applicable Bombardier service bulletin specified in paragraphs (g)(1) through (g)(4) of this AD.

(1) Bombardier Service Bulletin 84-24-47, Revision A, dated September 14, 2011.

(2) Bombardier Service Bulletin 84-24-48, Revision A, dated September 14, 2011.

(3) Bombardier Service Bulletin 84-24-49, Revision A, dated September 14, 2011.

(4) Bombardier Service Bulletin 84-24-50, Revision A, dated September 14, 2011.

**(h) Parts Installation Prohibition**

As of the effective date of this AD, no person may install an ACCB having the combination of part numbers (P/N) and series specified in paragraphs (h)(1), (h)(2), (h)(3), and (h)(4) of this AD on any airplane.

(1) P/N 1152130-6, series 1, 2, and 4.

(2) P/N 1152148-6, series 1, 2, 4, and 5.

(3) P/N 1152090-6, series 1, 2, and 4.

(4) P/N 1152124-6, series 1, 2, 4, and 5.

**(i) Credit for Previous Actions**

This paragraph provides credit for the actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using the applicable service bulletin specified in paragraphs (i)(1) through (i)(4) of this AD, which are not incorporated by reference in this AD.

(1) Bombardier Service Bulletin 84-24-47, dated April 26, 2011.

(2) Bombardier Service Bulletin 84-24-48, dated April 26, 2011.

(3) Bombardier Service Bulletin 84-24-49, dated April 26, 2011.

(4) Bombardier Service Bulletin 84-24-50, dated April 26, 2011.



**(j) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the ACO, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

**(k) Related Information**

(1) Refer to MCAI Canadian Airworthiness Directive CF-2012-03, dated January 11, 2012, and the service information specified in paragraphs (k)(1)(i) through (k)(1)(iv) of this AD, for related information.

(i) Bombardier Service Bulletin 84-24-47, Revision A, dated September 14, 2011.

(ii) Bombardier Service Bulletin 84-24-48, Revision A, dated September 14, 2011.

(iii) Bombardier Service Bulletin 84-24-49, Revision A, dated September 14, 2011.

(iv) Bombardier Service Bulletin 84-24-50, Revision A, dated September 14, 2011.

(2) For service information identified in this AD, contact Bombardier, Inc.,

Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5,

Canada; telephone 416-375-4000; fax 416-375-4539; email

[thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>.

#### **(I) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Bombardier Service Bulletin 84-24-47, Revision A, dated September 14, 2011.

(ii) Bombardier Service Bulletin 84-24-48, Revision A, dated September 14, 2011.

(iii) Bombardier Service Bulletin 84-24-49, Revision A, dated September 14, 2011.

(iv) Bombardier Service Bulletin 84-24-50, Revision A, dated September 14, 2011.

(3) For service information identified in this AD, contact Bombardier, Inc.,

Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5,

Canada; telephone 416-375-4000; fax 416-375-4539; email

[thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>.

(4) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:

<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on October 24, 2012.

Kalene C. Yanamura,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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